

All Hazards Weather Support Workshop: NOAA's Office of Response and Restoration



When spills happen, we respond...



Origins of NOAA HAZMAT Program...

– 1976

Argo Merchant oil spill,
Nantucket, Massachusetts

The tanker broke into two pieces Dec. 21, 1976, after running aground six days earlier on its way to Salem with a load of 7.3 million gal. of heavy fuel oil.

Spilled Oil Research (SOR)
Team established



– Nov 16, 1977 Scientific Support Team established for emergency spill response assistance to the U.S. Coast Guard and EPA

Before there was NOAA HAZMAT





AGENCY MISSION STATEMENT

The NOAA Office of Response and Restoration is guided by three goals in carrying out its stewardship responsibilities:

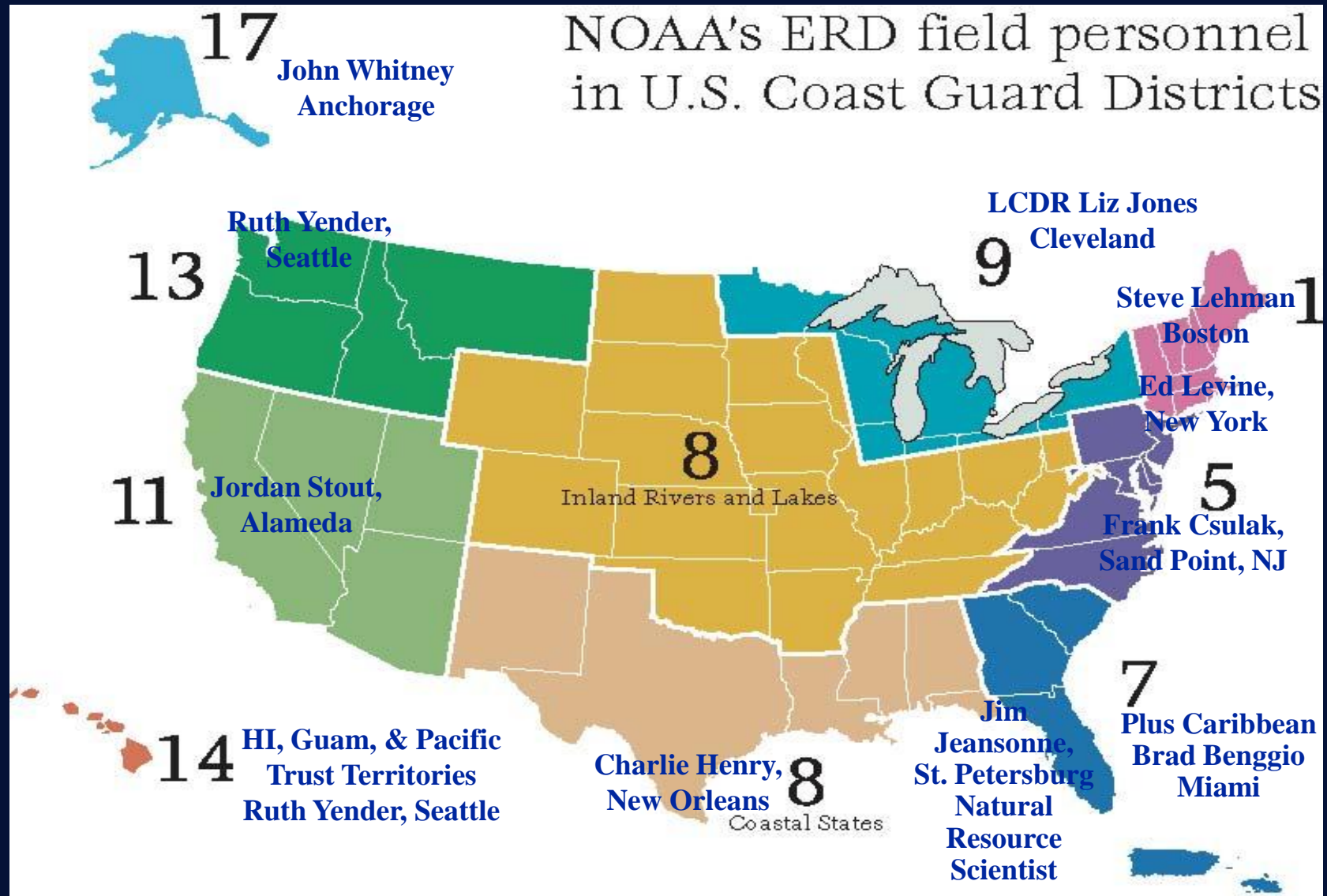
- Reducing threats to coastal resources and human health through planning and response.
- Protecting coastal resources and human health by recommending and implementing appropriate response actions.
- Restoring injured trust resources.

Other than just another NOAA Scientist...

- ...what is a Scientific Support Coordinator (SSC)?
- ...see IMH, p15-22
- ...total of 9 SSCs



DISTRIBUTION OF NOAA SSCs



Scientific Support Coordinator (SSC):

- SSCs provide the Federal On Scene Coordinator (FOSC) with scientific advice with regard to the best course of action during a spill response.
 - » FOSC is most often the USCG COTP or an EPA OSC
 - » SSC's do not restrict support to only the USCG and EPA
- The SSCs are essentially scientific-technical consultants to the FOSC for oil and hazardous material incidents. SSCs may be requested to respond to any emergency (all hazards).
- One of the identified Special Forces...



Chemical Spills

Oil Spills



8/2/2004

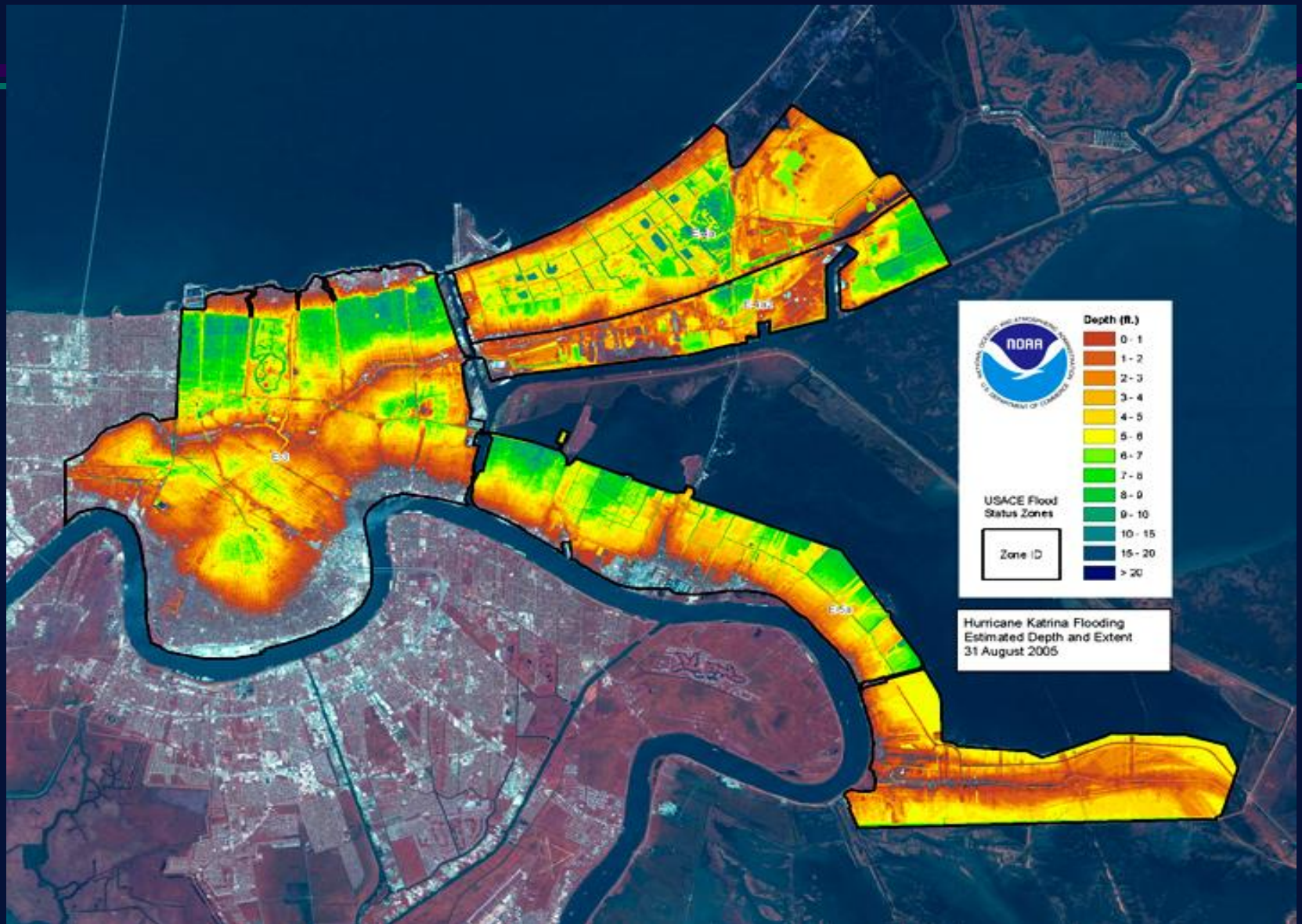


NOAA's First Satellite Map On-the-Wall





NOAA Estimation of Floodwater Depth









1303

DISPOSITION



DISPOSITION





USCG GOAL IS “BEST RESPONSE”



The SSC's job (or any responders job) is to help affect the spill response such that the net result meets the requirements of a “best response.”

(IMH 15-4)



NOAA Scientific Support Includes:

- *Weather Forecast*
- *Tides and Currents*
- *Hazard Characterization*
- *Tactical Trajectory*
- *Natural Resources at Risk (RAR)*
- *Overflight Obs.*
- *SCAT*
- *Environmental issues and trade-offs*
- *Consultation*



Science Team Composition

(the guys and gals who make the SSC look good)

- SSC's often manage a team of scientist:

- » Oceanographers
- » Modelers
- » Biologists
- » Chemists
- » Weather Forecasters (I-Met)
- » Info. Management Specialists



- Each spill is unique and the team composition highly variable to meet the needs and demands of the FOSC.

(>30 years of corporate knowledge)



Pollutant Transport/Weathering Modeling

- Interpretive Oil Trajectories (Forecasts)
 - » Verbal Forecast
 - » Written Forecast
- Modeling Products
 - » ALOHA
 - » OSSM
 - » GNOME
 - » ADIOS2



surface transport drivers include wind, currents, and tides

Tactical Planning - Trajectory Analysis

M/V New Amity Spill

Estimate for: 0800, 9/24/01

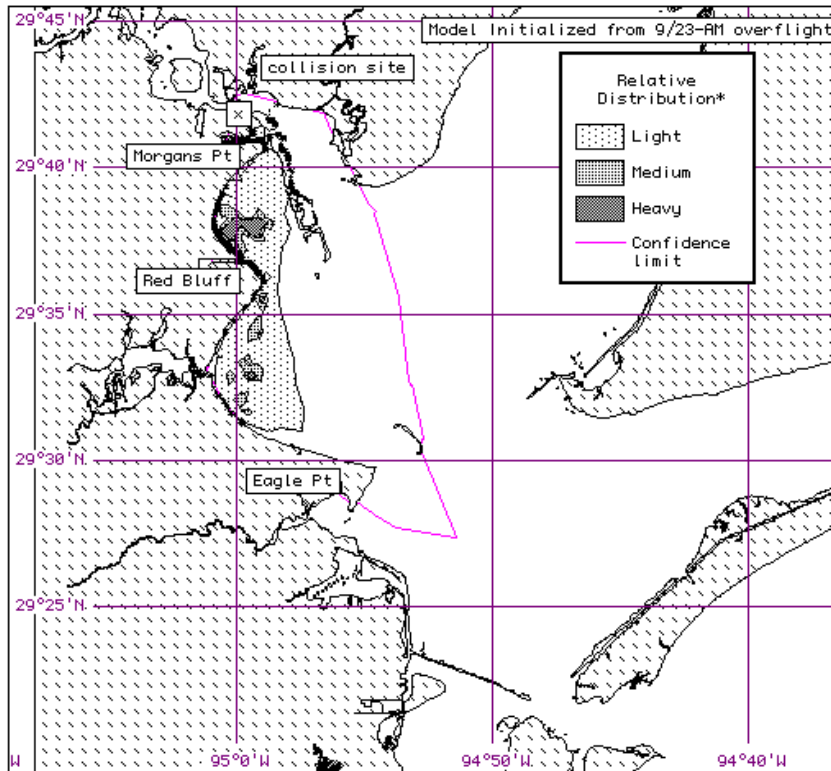
Prepared: 1328, 9/23/01

HAZMAT Trajectory Analysis

NOAA/HAZMAT (206) 526-6317



These estimates are based on the latest available information. Please refer to the trajectory analysis briefing and your Scientific Support Coordinator (SSC) for more complete information. This output shows estimated distributions of heavy, light, and medium concentrations as well as an outer confidence line. The confidence line is based on potential errors in the pollutant transport processes.



Light Heavy



* this scale bar shows the meaning of the distribution terms at the current time

Jessica Spill

Estimate for: 1600, 1/26/01

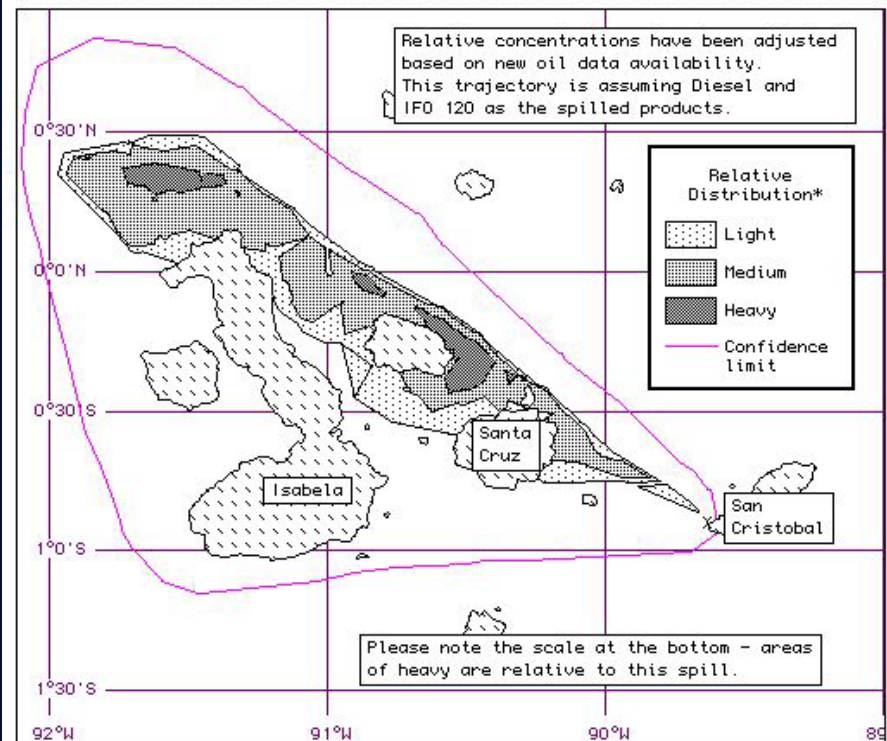
Prepared: 1554, 1/24/01

HAZMAT Trajectory Analysis

NOAA/HAZMAT (206) 526-6317



These estimates are based on the best available information. A large area is bounded by the confidence line due to uncertainty in the current (transition from dry/wet season) and because the wind forecast does not account for local variations (land/seabreeze and orographic effects). For further information please contact NOAA/HAZMAT at (206) 526-6317.



Light Heavy



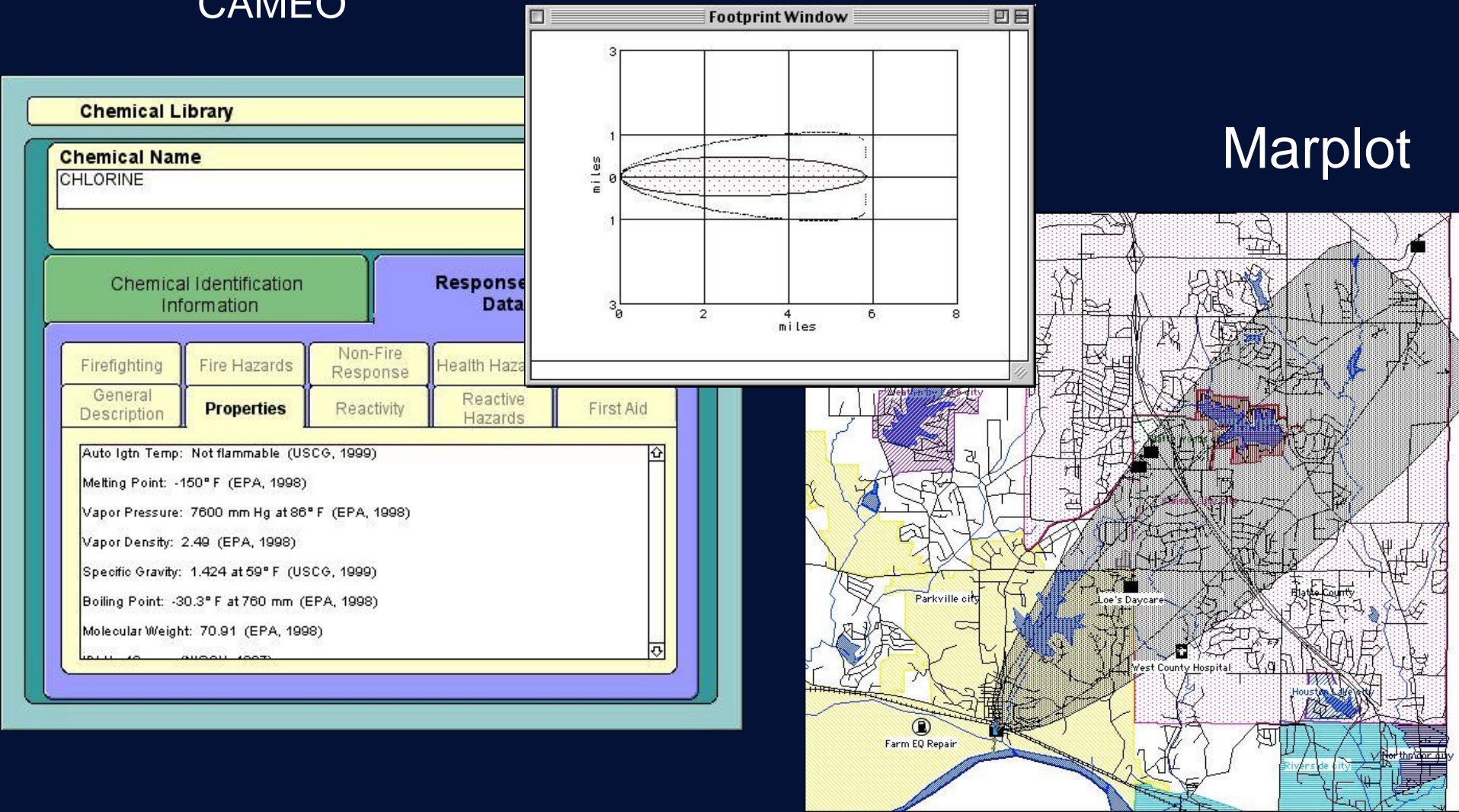
* this scale bar shows the meaning of the distribution terms at the current time

HAZMAT Chemical Products

Aloha

CAMEO

Marplot



Hydrogen Sulfide Barge Incident

(Barge FT-22)



Weather is Very Important to Us!



NOAA ALOHA Plume Trajectory for H₂S Emission



Overflights



Oil Spill Tracking and Documentation



M/V New Amity Incident

Overflight Map One of Two
prepared by NOAA

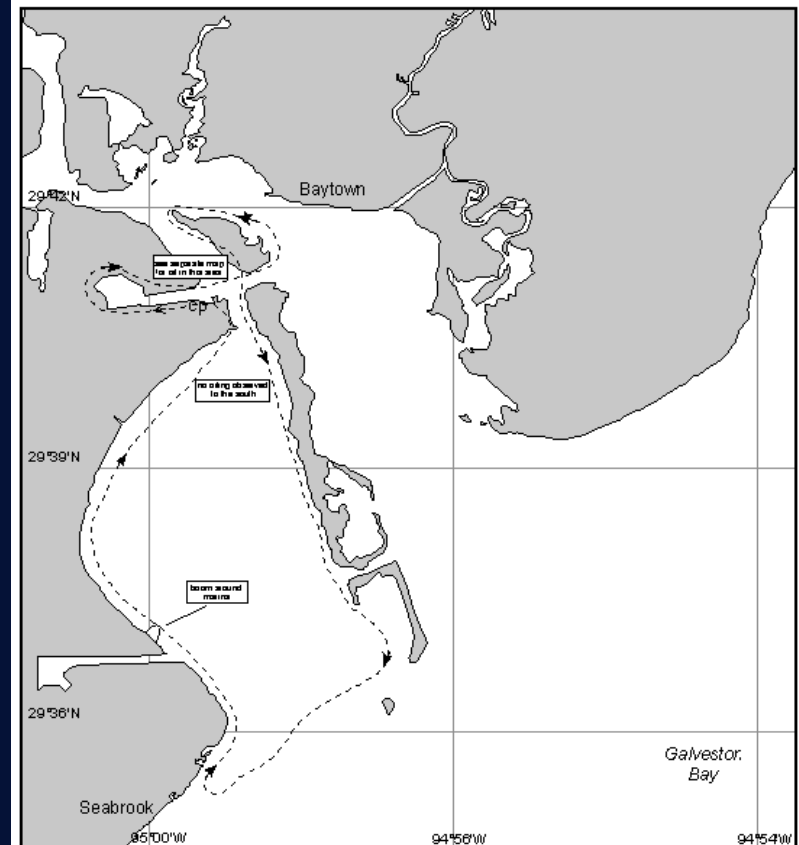
Date/Time: 9/26/01 0810

Platform: Helo

Observers: Thumm/NOAA, Caraway/TGLO,
Robinson/RP

USE ONLY AS A GENERAL REFERENCE

Graphic does not represent precise locations or amounts of oil



ovf1926.am

dd

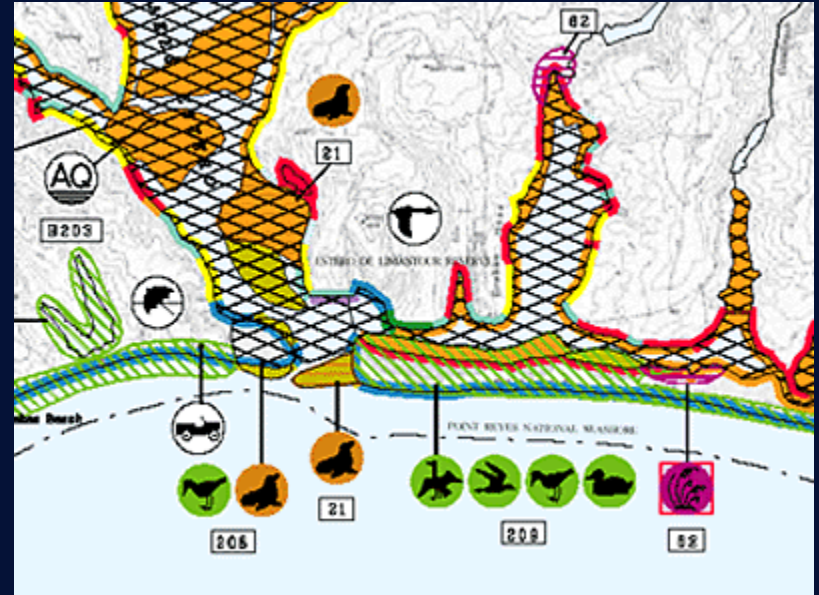


SCAT...

Natural Resources at Risk

- ESIs
- ESI Maps
- RARs
- Endangered Species
- Manager Consultations
 - » Planning
 - » Spill Response
 - » Post-Incident
 - » Ecological Risk Assessments

[NOAA Trust Resources](#)



“Spills are unplanned, uncontrolled scientific experiments.”

Charlie Henry

QuickTime™ and a
decompressor
are needed to see this picture.

Research Efforts



QuickTime™ and a
decompressor
are needed to see this picture.

Factsheets, Manuals & Job Aids

OPEN WATER OIL IDENTIFICATION JOB AID *for aerial observation*



Characteristic Coastal Ha

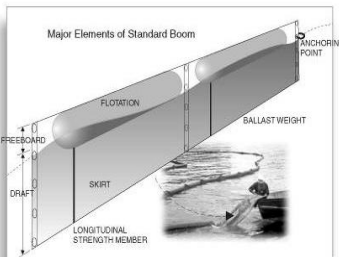


Trajectory Analy

National Oceanic and Atmospheric Ad
Office of Response and Restoration • Haza

Characteristics of Response Strategies:

A Guide for Spill Response Planning in Marine Environments



American Petroleum Institute
National Oceanic and Atmospheric Administration
U.S. Coast Guard
U.S. Environmental Protection Agency



Shoreline Assessment Job Aid

National Oceanic and Atmospheric Administration • NOAA Ocean Service
Office of Response and Restoration • Hazardous Materials Response Division



Dispersant Application Observer Job Aid

NOAA/NOS/Hazardous Materials Response Division
Seattle, Washington



U.S. Department of Commerce • National Oceanic and Atmospheric Administration
National Ocean Service • Office of Response and Restoration
National Environmental Satellite, Data, and Information Service • National Ice Center

Oil Spills in Mangroves

PLANNING & RESPONSE CONSIDERATIONS

Oil and Sea Turtles

BIOLOGY, PLANNING, AND RESPONSE



Oil Spills in Coral Reefs



Managing Seafood Safety after an Oil Spill



Ruth Yender
Office of Response and Restoration
National Oceanic and Atmospheric Administration
Seattle, Washington

Jacqueline Michel and Christine Lord
Research Planning, Inc.
Columbia, South Carolina



National Oceanic and Atmospheric Administration • NOAA National Ocean Service • Office of Response and Restoration

National Oceanic and Atmospheric Administration

Stewards of the Nation's Coastal Environment



Trustee Role



WHAT ARE NOAA TRUST RESOURCES ?

- Commercial and recreational fishery resources
- Anadromous species (such as the Gulf Sturgeon)
- Endangered and threatened marine species and their habitats (sea turtles)
- Marine mammals including whales, dolphins, and seals
- Marshes, mangroves, seagrass beds, coral reefs
- Resources associated with National Marine Sanctuaries and National Estuarine Resource Reserves







“I have never been to the same oil spill twice.”

Jacqui Michel



Contacting your NOAA SSC

☞ There are only nine NOAA SSCs for all the US and US Territories.

☞ For support call:

(206) 526-4911